JUN 1 2 2014 CITY SECRETAR

#### Document 00910

#### ADDENDUM NO. 2

Date of Addendum: 6-//-/4

PROJECT NAME: Lyons Health Center - Roof & Waterproofing

PROJECT NO: H-000097-0002-4

PROPOSAL SUBMITTAL DATE: June 19, 2014

FROM: City of Houston, General Services Department

900 Bagby, 2<sup>nd</sup> Floor Houston, Texas 77002

Attn: Venky Nagasandra, Project Manager

TO: Prospective Proposers

This Addendum forms a part of the Request For Competitive Sealed Proposals (RFCSP) and will be incorporated into the Contract documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs.

## CHANGE IN PROPOSAL SUBMITTAL DATE

The Proposal Submittal Date for this Project has been changed from Thursday, June 12, 2014 to Thursday June 19, 2014.

Time of day and place for submittal of proposal remains the same.

Changes are provided in the outside margins of pages from the Project Manual to indicate where changes have been made. Reissued Drawing Sheets show the Addendum number below the title block and changes in the Drawing are noted by a revision mark and enclosed in a revision cloud.

#### CHANGES TO PROJECT MANUAL

#### SPECIFICATIONS

1. The following documents, attached to this Addendum, will replace the original

documents and be incorporated into the contract only if the Contract Price is greater than \$1,000,000.00.

- Document 00410 Proposal Form
- Document 00520 Agreement (Addendum 2)
- Document 00600 List of Proposed Subcontractors and Suppliers Part A
   & B (Addendum 2)
- Document 00800 Supplementary Conditions (Addendum 2)
- 2. The following documents, attached to this Addendum, will be incorporated into the contract only if the Contract Price is greater than \$1,000,000.00.
  - Document 00470 Pre-Bid Bidder's MWBE Plan
  - Document 00471 Pre-Bid Good Faith Efforts
  - Document 00472 Bidders Goal Deviation Request
  - Document 808 Requirements for the City of Houston Program for Minority, Women, and Small Business Enterprises and Persons with Disabilities Enterprises
- Section 07220 Roof Insulation. Contractor shall delete the original for the attached revised Section 07220 – Roof Insulation and incorporate it into the project manual. All changes are tracked for ease of reference purposes
- Section 07513 Modified Bitumen Cap Sheet B.U.R. Contractor shall delete the original for the attached revised Section 07513 – Modified Bitumen Cap Sheet B.U.R. and incorporate it into the project manual. All changes are tracked for ease of reference purposes

#### CHANGES TO DRAWINGS

- Delete Sheet DS1, Details, and replace with the attached revised Sheet DS1. Changes are noted in a Revision Cloud.
- Delete Sheet NRP1, New Roof Plan, and replace with the attached revised Sheet NRP1. Changes are noted in a Revision Cloud.

#### **CLARIFICATIONS**

- 7. All burglar bars on window shall be removed, replaced and re-secured as necessary to perform wet sealing of perimeter windows and sealing of door frames.
- 8. Existing metal wall panels are not to be painted.
- 9. Elastomeric coating application on masonry walls is base bid work.

- 10. Refer to specification Section 02 82 13 Asbestos Abatement for location(s) of all asbestos containing materials.
- 11. Detail 5/S4.20 bridging steel angle size shall be 1-1/4" x 1-1/4" x 1/8" not the 4-1/2" x 1-1/4" x 1/8" shown on the current drawing.
- 12. Details 1/S4.20 and 2/S4.20 shows new steel channels under RTU curbs. New channel size to be MC 6" x 12".
- 13. Install new expansion joints as shown and called out on Sheet NRP1 between Roof Areas "A1" and "A2", and "A2" and "A3".
- 14. New metal roof decking is to be installed on Roof Areas "A1", "A2", and "A3" as indicated on Sheet NRP1 and Sheet S2.00
- 15. Contractor shall include in their base bid the removal and replacement of ceiling tiles, light fixtures and all other items as required to perform the work.
- 16. Contractor may request for approval to work additional hours beyond those included in Specification Section 00700 - General Conditions. Hours will be approved as deem acceptable by the City of Houston. Contractor shall be responsible and pay for all costs for additional security and inspection measures required for working hours outside those approved in Specification Section 00700 -General Conditions
- 17. Start and completion dates will be established once the project bids have been received and a contract approved by City of Houston City Council.
- 18. Detail 2 on Sheet S4.20 Contractor shall use (2) #4's at the top and at the bottom.

END OF ADDENDUM NO. 2

Humberto Bautista, P.E

City Engineer

**END OF DOCUMENT** 

#### Document 00410A

#### PROPOSAL FORM - PART A

To:

The Honorable Mayor and City Council of the City of Houston

City Hall Annex 900 Bagby Street Houston, Texas 77002

Project:

Lyons Health Center - Roof & Weatherproof

Project No.:

H-000097-0002-4

Proposer:

(Print or type full name of sole proprietorship, partnership, corporation, or joint venture.)

#### 1.0 OFFER

- A. Total Proposal Price: Having examined the Project location and all matters referred to in Proposal Documents for the Project, we, the undersigned, offer to enter into a Contract to perform the Work for the Total Proposal Price shown on the signature page of this Document
- B. Security Deposit: Included with the Proposal is a Security Deposit in the amount of 10 percent of the Total Proposal Price subject to terms described in Document 00200 -Instructions to Proposers.
- C. Period for Proposal Acceptance: This offer is open to acceptance and is irrevocable for 90 days from Proposal Date. That period may be extended by mutual written agreement of the City and Proposer.
- D. Addenda: All Addenda have been received. Modifications to Proposal Documents have been considered and all related costs are included in the Total Proposal Price.
- Proposal Supplements: The following documents are attached:
  - Security Deposit (as defined in Document 00200 Instructions to Proposers)
  - Document 00450 Proposer's Statement of MWBE/PDBE/DBE/SBE Status [X]
  - Document 00452 Contractor's Submission List Fair Campaign Ordinance Form A [X]
  - [X] Document 00453 Proposer's Statement of Residency
  - [X] Document 00454 Affidavit of Non-interest
  - Document 00455 Affidavit of Ownership or Control [X]
  - Document 00457 Conflict of Interest Questionnaire [X]
  - Document 00460 Pay or Play Program Acknowledgement Form (POP-1) [X]
  - Document 00470 Proposer's MWSBE Participation Plan [X]
  - Document 00471 Pre-Proposer's Good Faith Efforts [X]
  - Document 00472 Proposer's Goal Deviation Request [X]
  - Document 00809 Request for Contractor Clearance, Page FC-22
  - [ ] Others as listed:

#### 2.0 CONTRACT TIME

A. If offer is accepted, Contractor shall achieve Date of Substantial Completion within 161 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

#### Document 00410B

#### PROPOSAL FORM - PART B

- 1.0 TOTAL PROPOSAL PRICE HAS BEEN CALCULATED BY PROPOSER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):
  - A. STIPULATED PRICE:

    (Total Proposal Price; minus Base Unit Prices, Extra Unit Prices, Contractor Incentive/bonus, Cash Allowances and All Alternates, if any)
  - B. BASE UNIT PRICE TABLE: N/A
  - C. EXTRA UNIT PRICE TABLE: N/A
  - D. CONTRACTOR INCENTIVE/BONUS TABLE: N/A
  - E. CASH ALLOWANCE TABLE: N/A
  - F. ALTERNATES TABLE: N/A

REST OF PAGE INTENTIONALLY LEFT BLANK

G		L PROPOSAL PRICE: als for Items A., B., C., D., E., an	d F. above)
ai	i Addend	RES: By signing this la and considered all cosal Price.	Document, I agree that I have received and reviewed costs associated with the Addenda in calculating the
Pr	oposer:		
		(Print or type full name of you	ur sole proprietorship, partnership, corporation, or joint venture.*)
** By	<b>'</b> :		
•		Signature	Date
Na	me:		
		(Print or type name)	Title
Add	dress:		
		(Mailing)	
		(Street, if different)	
Tele	ephone ar	nd Fax Number: (Print	or type numbers)

- \* If Proposal is a joint venture, add additional Proposal Form signature sheets for each member of the joint venture.
- \*\* Proposer certifies that the only person or parties interested in this offer as principals are those named above. Proposer has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive Proposal.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

**END OF DOCUMENT** 

#### **BIDDER'S MWSBE PARTICIPATION PLAN**

The Bidder or Proposer shall submit this completed form with the bid, to demonstrate the Bidder/Proposer's plan to meet the contract-specific MWSBE goal ("contract goal"). If the Bidder or Proposer cannot meet the contract goal, the Bidder/Proposer has the burden to demonstrate "Good Faith Efforts", which shall include correctly and accurately preparing and submitting this form, a Record of Good Faith Efforts (Document 00471), and a Request for Deviation from the Goal (Document 00472), the documentation evidencing their "Good Faith Efforts", as required by the City of Houston's Good Faith Efforts Policy (Document 00808). The City will review the Participation Plan and Good Faith Efforts at the time of bid opening. Visit <a href="http://www.houstontx.gov/obo">http://www.houstontx.gov/obo</a> for more information.

0.00%		MBE	WBE	Bidder's F	Participation Percentage	SBE	MBE	WBE	Tota		
NAICS Code (6 digit)	Descript Price #,	tion of W Scope of	ork (Plan Sł Work #, as	neet #, Unit applicable)	% of Total Bid Price (2 decimal places)	Bid Price for Goal (2 decimal MBE,		Bid Price for Goal (2 decimal MBE,		ified Firm Na Firm Address Contact Name and E-Mail (if	
									***************************************		
									<b>*************************************</b>		
		····							· ·		
t Name:				n may violate T	Date:						

00470-1 08-01-2013

<<Bidder Name>>

#### DOCUMENT 00470

#### **CONTINUATION PAGE**

ddress t Name	Certified Fire Firm Add Contact N Phone No. and E-Ma	t. Type Goal MBE, E, SBE)	fo	% of Total Bid Price (2 decimal places)	<b>)</b>	applicable Work	umber (if ription of	Plan Item N Desc		NAICS Code (6 digit)
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Metabolic Control Cont			***************************************							
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						***************************************				
					The state of the s					The second secon
				Date:	*			oany:	r Com	ature for

Print Name:	Phone:	
*I understand that supplying inaccurate information may violat	e Texas Penal Code	Section 37.10 and lead to City sanctions.

00470-2 08-01-2013

<<Bidder Name>>

### PRE-BID GOOD FAITH EFFORTS

Bidde	r or P	roposer	Name:		Project N	Vame		
submi other Prime which describ Opport bidder.	t this docur Contr included tunity	o) to mee complete nentation ractor ha des corr n the Cit will revie	ser that may be unablet the Contract Goal and form as well as a Coal and form as well as a Coal and form as the burden to demoderately and accurately by's Good Faith Efforts and Faith Efforts	in the Su Goal Devia orts" with onstrate preparin rts Policy and Part	oplementa ation Requ the bid (s "Good Fa g and su (Docume icipation F	al Conditi uest Forn see Docu ith Effort: ubmitting ent 0080 Plan after	ons (Document Oos) Imment Oos Imm	ument 00800), ment 00472), and a control of the Bidder of the MWSBE go and other efform of an apparent lo
NAICS Code	Plan Item No.	MWSBE Type for Goal	R'S/PROPOSER'S PARTI HIS FORM MAY RESULT Certified Firm Name Address, Phone No. and E-Mail	CIPATION IN THE BIL Certified Firm Contact Person	PLAN MEE D BEING FO  Method of Contact	Prime Contact Date	ONTRACT G N-RESPONS Certified Firm Response	Results of Contact (why suitable or not suitable for
					Phone  E-mail  Fax			work)
					Phone  E-mail  Fax			
					Phone  E-mail  Fax			
					Phone			
horized Si	gnature	÷:		Date:		Ph	one:	
t Name: _			E	mail Address				

#### CONTINUATION PAGE

	Person	Contact	Date	Response	not suitable for work)
		Phone □ E-mail □ Fax □			<u> </u>
		Phone ☐ E-mail ☐ Fax ☐			
		Phone			
	1	Phone  E-mail  Fax			
	1	3			
	E				
	E-	-mail 🗆 🕌			
		F E	Phone   E-mail   Fax   Phone   E-mail   E-mail   Fax   Phone   E-mail   E-ma	Fax   Phone   E-mail   Phone   Phone   E-mail   Phone   Phone	Fax   Phone   E-mail   Fax   Phone   Phone   E-mail   Fax   Phone   E-mail   E-mail   Fax   Phone   E-mail   E-mail   E

Authorized Signature:	Date:	Phone:
Print Name:	Email Address:	

## BIDDER'S MWSBE GOAL DEVIATION REQUEST

Bidder or Proposer Name:					<del></del>
Project Name & Bid/Contract #:					······································
Department Approved MWSBE Goals	MBE %	WBE %	SBE %	Total %	
Bidder's Proposed MWSBE Goals	MBE %	WBE %	SBE %	Total %	
Justification: Please provide the reason	n the Bidde	er is unable to	meet the Conti	ract Goal in For	rm 00800.
					00000.
Good Faith Efforts: Please list any effort	s not listed	d in the Bidder	's Good Faith E	ffort Report (F	orm 00471)
				ore report (r	0/11/004/1/
ate:					
mail:					
none Number:					
OR OFFICIAL USE ONLY: Approved	Not	Approved $\Box$			
BO Representative	Date	3:			

#### **AGREEMENT**

Project:

Lyons Health Center - Roof and Waterproof

**Project Location:** 

5602 Lyons Avenue (Key Map No. 494G)

Project No:

Fax Number:

WBS No. H-000097-0002-4

832-393-8066

	VVD3 NO. 11-000097-0002-4				
The City: THE CITY OF and	HOUSTON, 900 Bagby Street, Houston, Texas 77002 (the "City")				
Contractor:					
(Address for Written Notice)					
	Houston, Texas 77				
Fax Number:					
City Engineer is:	Humberto Bautista, P.E.				
Address for Written Notice)	P. O. Box 61189, Houston, Texas 77208-1189				
City Employee designated to	represent the City Engineer is: Venky Nagasandra				

THE CITY AND CONTRACTOR AGREE AS FOLLOWS:

#### **ARTICLE 1**

#### THE WORK OF THE CONTRACT

1.1 Contractor shall perform the Work in accordance with the Contract.

#### **ARTICLE 2**

#### **CONTRACT TIME**

- 2.1 Contractor shall achieve Date of Substantial Completion within <u>161</u> days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.
- 2.2 The Parties recognize that time is of the essence for this Agreement and that the City will suffer financial loss if the Work is not completed within the Contract Time. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the City the amount stipulated in Document 00800 Supplementary Conditions, for each day beyond Contract Time.

#### **ARTICLE 3**

#### **CONTRACT PRICE**

3.1	Subject to terms of the Contract, the City will pay Contra	ctor in current funds for Contractor's
	nance of the Contract, Contract Price of \$	, which includes Alternates, if any
accepte	ed below.	,

3.2 The City accepts Alternates as follows:

Alternate No. 1 Not Applicable

## ARTICLE 4 PAYMENTS

- 4.1 The City will make progress payments to Contractor as provided below and in Conditions of the Contract.
- 4.2 The Period covered by each progress payment is one calendar month ending on the [\_\_\_] 10th, [\_\_\_] 20th, or [\_X\_] last day of the month.
- 4.3 The City will issue Certificates for Payment and will make progress payments on the basis of such Certificates as provided in Conditions of the Contract.
- 4.4 Final payment, constituting entire unpaid balance of Contract Price, will be made by the City to Contractor as provided in Conditions of the Contract.

#### **ARTICLE 5**

#### **CONTRACTOR REPRESENTATIONS**

- 5.1 Contractor represents:
- 5.1.1 Contractor has examined and carefully studied Contract documents and other related data identified in Bid Documents.
- 5.1.2 Contractor has visited the site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, and performance of the Work.
- 5.1.3 Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.
- 5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract documents.

- 5.1.5 Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto
- 5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.
- 5.1.7 Contractor is aware of general nature of work to be performed by the City and others at the site that relates to the Work as indicated in Contract documents.
- 5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.
- 5.1.9 Contractor has given City Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and written resolution thereof by City Engineer is acceptable to Contractor.
- 5.1.10 Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

#### **ARTICLE 6**

#### MISCELLANEOUS PROVISIONS

- 6.1 The Contract may be terminated by either Party as provided in Conditions of the Contract.
- 6.2 The Work may be suspended by the City as provided in Conditions of the Contract.

#### **ARTICLE 7**

#### **ENUMERATION OF CONTRACT DOCUMENTS**

- 7.1 The following documents are incorporated into this Agreement:
- 7.1.1 Document 00700 General Conditions.
- 7.1.2 Document 00800 Supplementary Conditions.
- 7.1.3 General Requirements.
- 7.1.4 Divisions 02 through 49 of Specifications attached hereto or incorporated by reference in Document 00010 Table of Contents.

- 7.1.5 Drawings listed in Document 00015 List of Drawings, and bound separately.
- 7.1.6 Addenda and Riders, which apply to the Contract, are as follows:

Addendum No. 1, Not Applicable

7.1.7 Other documents:

Document I	No. Title
[X] 00410B	Proposal Form – Part A
[X] 00460	POP Program Acknowledgement Form (POP-1)
[X] 00500	Form of Business
[X] 00501	Resolution of Corporation (if a corporation)
[X] 00600	List of Proposed Subcontractors and Suppliers, Parts A&B
[X] 00610	Performance Bond
[X] 00611	Statutory Payment Bond
[X] 00612	One-year Maintenance Bond
[ ] 00613	One-year Surface Correction Bond
[X] 00620	Affidavit of Insurance (with the Certificate of Insurance attached)
[X] 00624	Affidavit of Compliance with Affirmative Action Program
[ ] 00628	Affidavit of Compliance with Disadvantaged Business Enterprise (DBE)
	Program for Project Funded By AIP Grant
[X] 00630	Certification of Compliance with Pay or Play Program (POP-2)
[X] 00631	Pay or Play Program List of Participating Subcontractors (POP-3)
[ ] 00804	ARRA REQUIREMENTS
[X] 00805	Equal Employment Opportunity Program Requirements
[X] 00808	Minority and Women-Owned Business Enterprise (MWBE), Persons
	with Disabilities Business Enterprise (PDBE) Program and Small
	Business Enterprise (SBE) Program
[ ] 00809	CDBG Requirements for Federally Funded Projects
[ ] 00811	Federal Wage Rate Decision
[ ] 00813	CDBG Section 3 – Contractors Orientation Guide
[X] 00820	Wage Scale and Payroll Requirements for Engineering Construction
[X] 00821	Wage Scale and Payroll Requirements for Building Construction
[ ] 00830	Trench Safety Geotechnical Information
[ ] 00912	Rider (Contractor Initials:)

# ARTICLE 8 SIGNATURES

8.1 This Agreement is executed in two original copies and is effective as of the date of countersignature by City Controller.

CONTRACTOR:	(If Joint Venture)
Ву:	By:
Name:	
Title:	
Date:	
Tax Identification Number:	
CITY OF HOUSTON, TEXAS	
APPROVED:	SIGNED:
By: Director, General Services Department	By: Mayor
Executive Control Control Department	COUNTERSIGNED:
	Ву:
	City Controller
TTEST/SEAL:	Date Countersigned:
y:City Secretary	
2 This Contract and Ordinance have been rovi	iewed as to form by the undersigned legal assistant partment criteria. Legal Department has not reviewed
Legal Assistant	Date

**END OF DOCUMENT** 

# LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS - PART A MBE/WBE PARTICIPATION PLAN

TOTAL BID	PRICE: \$			
		PERCENTAG	E MBE:19	(
<u></u>		PERCENTAG	E WBE:11	
MBE OR SBE	MBE/SBE SUBCONTRACTOR OR SUPPLIER(1)	SCOPE OF WORK(2)	AGREED PRICE	% OF TOTAL BID PRICE
MBE				
WBE				
WBE				
WBE				
2. DE: ELE 3. USE CONTRACTOR SI WITHIN 30 DAYS	MS LISTED IN PART A SHALL BE CERTIFIEM MPLIANCE DIVISION. SCRIBE THE WORK TO BE PERFORMED, FECTRICAL, ETC. E SEPARATE LINE FORMBE/SBE PERCENTHALL EXECUTE CONTRACTS WITH AFTER THE DATE OF THE NOTICE TO	FOR WHICH THE FIRM IS CERT TAGES.	IFIED, SUCH AS PAV	/ING,
SIGNATURE:		COMPANY NAME:		
IAME:	(Type or Print)	TITLE:		

**END OF DOCUMENT** 

00600-1 10-28-2009 – Addendum 2

# LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS - PART ${\sf B}^1$ SCHEDULE OF NON-MBE/SBE SUBCONTRACTORS AND SUPPLIERS

SUBCONTRACTOR OR SUPPL	IER	ADDRESS	SCOPE OF WORK <sup>2</sup>
	ERFORMED	, SUCH AS PAVING, ELECTRICAL, E	TC.
CONTRACTOR SHALL EXECUTE CONTRA MITHIN 30 DAYS AFTER THE DATE OF TH	CTS WITH E NOTICE	APPROVED SUBCONTRACTORS TO PROCEED.	S AND SUPPLIERS
GIGNATURE:		COMPANY NAME:	
AME:(Type or Print)		TITLE:	

END OF DOCUMENT

#### SUPPLEMENTARY CONDITIONS

The following Paragraphs amend and supplement the August 1, 2013 edition of General Conditions. Unaltered portions of General Conditions remain in effect.

#### ARTICLE 3 - THE CONTRACTOR

- 3.5 LABOR: Insert the following Paragraph 3.5.3.1.1.
- 3.5.3.1.1 If the original contract price is greater than \$1 Million Dollars, the Contractor shall make good faith efforts to comply with the City ordinances regarding Minority Business Enterprises (MBE), Persons with Disabilities Business Enterprises (PDBE) and Small Business Enterprise (SBE) participation goals which are as follows:
  - .1 the MBE goal is 19 percent,
  - .2 the WBE goal is 11 percent, and
  - .3 the PDBE goal is <u>0</u> percent.

#### ARTICLE 8 - TIME

- 8.1 PROGRESS AND COMPLETION: Add the following Paragraph 8.1.6.1.
- 8.1.6.1 Contractor shall credit the City by Change Order for inspection services for overtime work or work performed on Sundays or Legal Holidays. The amount Contractor credits the City will be \$120.00 per inspector for inspection services.

### ARTICLE 9 - PAYMENTS AND COMPLETION

- 9.1 UNIT PRICE WORK: Delete Section 9.1 in its entirety and insert the following Section 9.1.
- References to Unit Prices in individual Specification sections are not applicable to the Contract. Include payment for portions of the Work required by these sections in the Stipulated Price for the Contract.
- 9.12 LIQUIDATED DAMAGES: Insert the following Paragraph 9.12.1.1.
- 9.12.1.1 The amount of liquidated damages payable by Contractor or Surety for each and every day of delay beyond Contract Time, are \$800.00 per day.

#### ARTICLE 11 - INSURANCE AND BONDS

- 11.2 INSURANCE TO BE PROVIDED BY CONTRACTOR: Insert the following Paragraph 11.2.1.2.
- 11.2.1.2 Contractor shall purchase for the duration of the Contract the insurance set out in Table 2 in addition to the minimum insurance coverage set out in section 11.2.1.

# TABLE 2 ADDITIONAL REQUIRED COVERAGE DEFENSE COSTS EXCLUDED FROM FACE AMOUNT OF POLICY.

(Coverage)

(Limit of Liability)

Property and Casualty Coverage:
"All Causes of Loss" Builder's Risk Form for directing physical change to building or plant construction on the Work site and/or all land improvements including all work. (Including but not limited to earthquake, flood, boiler, and machinery including testing, damage to existing or adjoining property, time element coverage, collapse, soft costs (management, architecture, financial costs, pre-opening costs, etc.), transit coverage, off-site storage).

100% of Contract Price, including change orders

Contractor's Pollution Liability:

Including pollution coverage for Contractual Liability, Clean-up costs, Abatement, Transport, and Non-owned disposal sites. Including Bodily Injury Liability, Property Damage Liability, and environmental damage arising from pollution conditions caused in performance of operations. Including Asbestos and Lead if part of operations.

\$1,000,000 each occurrence

(MCS - 90 endorsement: to Auto Policy and removal of Pollution Exclusion) \$1,000,000 CSL

END OF DOCUMENT

# REQUIREMENTS FOR THE CITY OF HOUSTON PROGRAM FOR MINORITY, WOMEN, AND SMALL BUSINESS ENTERPRISES AND PERSONS WITH DISABILITIES ENTERPRISES (PDBE)

#### **CONSTRUCTION CONTRACTS**

#### I. GENERAL

#### A. CITY AUTHORITIES

- The "OBO Director" is the City of Houston's Office of Business Opportunity Director, or his or her designee.
   City of Houston
   Walker Street, 7th Floor
   Houston, Texas 77002
- 2. The "Contracting Department" for this Project is the City of Houston Department specified in Document 00520 Agreement.
- 3. The "Project Manager" is for this Project specified in Document 00550 Contract Approval Notification.

# II. REOCCURRING REPORTS THAT MUST BE SUBMITTED DURING THE COURSE OF THE CONTRACT:

#### A. MWSBE MONTHLY REPORT PROCESS

The Contractor shall complete the MWSBE Monthly Utilization Report in the Contract Compliance and Monitoring System (available at <a href="https://houston.mwdbe.com/">https://houston.mwdbe.com/</a>).

B. The Contractor shall comply with further, applicable instructions regarding reporting and compliance as provided in Sections III.E and III.I below.

#### III. BUSINESS ENTERPRISE PROGRAM REQUIREMENTS:

#### A. PURPOSE

This Document facilitates implementation of City of Houston, Tex. Code of Ordinances Chapter 15, Article V, § 15-81 et seq., relating to MWSBE contract participation, and Code of Ordinances Chapter 15, Article VI, § 15-90 et seq., relating to PDBE contract participation (collectively, the "Business Enterprise Program or "MWSBE"). City of Houston, Tex. Ordinance 2013-0428, May 8, 2013.

#### B. POLICY

It is the policy of the City to encourage the full participation of Minority and Women-owned Business Enterprises, Small Business Enterprises, and Persons with Disabilities Business Enterprises in all phases of its procurement activities and to afford them a full and fair opportunity to compete for City contracts at all levels.

#### C. POLICY ELEMENTS

- 1. The Contractor agrees to ensure that MWSBE firms have a full and fair opportunity to participate in the performance of City contracts. In this regard the Contractor shall make all reasonable Good Faith Efforts to meet the Contract Goals for this Contract.
- 2. The Contractor and any Subcontractor shall not discriminate on the basis of race, color, religion, national origin, or sex in the performance of City contracts.
- 3. Contractor's performance in meeting the Participation Plan Percentage will be monitored during the construction phase of the Contract by the OBO Director and Contracting Department.

#### D. PERCENTAGE GOALS

The MWSBE goals and PDBE goals, if any, for the Work are specified in Document 00800 – Supplementary Conditions Goals.

#### E. CONTRACTOR RESPONSIBILITIES

#### 1. Prior to Award:

The Bidder shall submit MWSBE documents in accordance with the requirements of Document 00410 – Bid Form Part A.

- a. In accordance with the Code of Ordinances and the OBO Good Faith Efforts Policy (Attachment A), the Department shall approve an Apparent Low Bidder's MWSBE Participation Plan—Document 00470 (the "Bidder's Plan" or "Plan") within 3 business days of the Bid Opening only if the Department representative determines that Bidder's Plan meets the advertised Contract Goal and is administratively complete.
- b. If the Department cannot approve the Bidder's Plan, it shall forward the Plan to the OBO Director, who shall review the Bidder's Plan, and if applicable, the Bidder's Document 00471 (Record of Good Faith Efforts) and Document 00472 (Pre-Award Deviation Request) and determine whether the Bidder has made Good Faith Efforts to meet the Contract Goals within 10 business days of the Bid Opening.
- c. If the OBO Director determines that the Bidder has failed to provide a valid participation plan or make Good Faith Efforts or if the Bidder fails to provide documents and associated information required by this Document 00808 or reasonably requested in writing by the OBO Director, the OBO Director may declare the Bidder to be non-responsible.
- d. If the OBO Director determines that the Bidder has made Good Faith Efforts, the Director may approve the Bidder's Contract Goal Deviation request. Thereafter, the Bidder/Contractor shall be bound by the Plan, as approved or modified by the OBO Director.
- e. The Contractor shall:
  - (1) ensure that all MWSBE firms listed in the Plan are certified by the Office of Business Opportunity prior to bid date. Qualified, non-certified firms may obtain priority consideration for certification if no more than two firms are certified with the same capability as the non-certified firm.
  - (2) execute written contracts with all certified Subcontractors and Suppliers. All such contracts must be executed and sent to the OBO Director and Contracting Department within 30 days after the date of the Notice to Proceed and must include provisions set forth in Articles 3 and 5 of Document 00700 General Conditions.
  - (3) designate an MWSBE liaison officer who will administer the Contractor's MWSBE program and who shall document and maintain records of Good Faith Efforts to subcontract with MWSBE Subcontractors and Suppliers.

#### 2. After Award:

- a. The Contractor shall submit MWSBE Monthly Utilization Reports, requested in Article II above.
- b. The Contractor shall complete and submit to the OBO Director a Post-Award Deviation Request—Document 00572 ("Post-Award Deviation Request") if the Contractor reasonably believes that it will not achieve the Business Enterprise Program Participation Plan Percentage documented in the Plan. The Contractors shall also submit to the OBO Director, with a Copy to the Contracting Department, a Record of Post-Award Good Faith Efforts (Document 00571) for each Certified Firm that the Contractor does not use in accordance with the Approved Plan before the Contractor uses another firm to perform the work.
- c. The Contractor shall conform to the Plan unless the OBO Director grants a Post-Award Deviation Request. The OBO Director shall approve or reject a Deviation Request within 5 business days of receipt of the Deviation Request.
- d. The OBO Director shall grant a Post-Award Deviation Request if
  - for a reason beyond the Contractor's control, the Contractor is unable to use the certified MWSBE firm in the Plan to perform the specified work. In such cases, the Contractor shall use and document Good Faith Efforts to find a similarly qualified, certified MWSBE firm to perform such specified work; or
  - (2) the Contractor reasonably believes that, due to a change of scope, execution of the work in accordance with the directions from the Contracting Department is unlikely to meet the terms of the Plan. In such cases, the Contractor shall use and document Good Faith efforts to achieve a reasonable amount of MWSBE participation on the remaining work on the Contract.
  - (3) The OBO Director shall not unreasonably withhold approval of a Post-Award Deviation Request.
- e. After the Date of Substantial Completion, the OBO Director shall evaluate the Contractor's Good Faith Efforts towards meeting the Plan, as it may amended.
- f. If the Contractor fails to conform to the Plan and fails to submit a Post-Award Deviation Request or provide documents and associated information required by the Good Faith Efforts Policy or reasonably requested in writing by the OBO Director, the OBO Director may impose sanctions in accordance with Article VI of this Document 00808.

#### F. ELIGIBILITY OF MWSBE FIRMS FOR SUBCONTRACTING

- 1. To ensure that the City's Business Enterprise Program benefits only those firms that are owned and controlled by a minority person(s), a woman (women), a person(s) with a disability, or a small business enterprise, the Office of Business Opportunity will certify the eligibility of MWSBE and PDBE Contractors, Subcontractors, and Suppliers. Contact the Office of Business Opportunity Certification Section at 832-393-0600 for information regarding certification.
- 2. The Office of Business Opportunity maintains a Certified Minority, Women and Small Business Enterprises and Disabilities Business Enterprises Directory on the City's website. This Directory also lists federally-designated Disadvantaged Business Enterprises (DBEs).

NOTE: MWSBE firms, even if certified by another agency, may not qualify for Contract Goals unless certified by the Office of Business Opportunity prior to acceptance of the Participation Plan.

#### G. DETERMINATION OF MWSBE PARTICIPATION

MWSBE participation shall be counted toward meeting the Contract Goals in response to the following:

- 1. Once a firm is certified as a MWSBE firm, the total dollar value of the subcontract awarded to the MWSBE firm is counted toward the Contract Goals (See Sections III.G.4 and III.G.5 below). Safety and Participation goals do not count as a single goal concerning MWSBE/DBE requirements.
- 2. When the Contractor or Subcontractor is in a joint venture with one or more MWSBE firms, the OBO Director shall determine the percent of participation resulting from such joint venture to be counted toward the Contract Goals.
- 3. Contractor may count toward its Contract Goals only those MWSBE Subcontractors/ Suppliers performing a Commercially Usefully Function.
  - a. COMMERCIALLY USEFUL FUNCTION means a discrete task or group of tasks, the responsibility for performance of which shall be discharged by the MWSBE firm by using its own forces or by actively supervising on-site the execution of the tasks by another entity for whose work the MWSBE firm is responsible. In determining whether a certified firm is performing a commercially useful function, factors including but not limited to the following

shall be considered: (1) whether the firm has the skill and expertise to perform the work for which it is being utilized and possesses all necessary licenses; (2) whether the firm is in the business of performing, managing, or supervising the work for which it has been certified and is being utilized; and (3) whether it is performing a real and actual service that is a distinct and verifiable element of the work called for in a contract. Without limiting the generality of the foregoing, a MWSBE will not be considered to be performing a commercially useful function, if it subcontracts to non-MWSBE firms or to other MWSBE firms, more than 50 percent of a contract being counted toward the applicable Contract Goals, unless such subcontracting in excess of 50 percent has been expressly approved by the OBO Director in a Goal or Plan Deviation Request (Document 00472 or Document 00572) (either pre-bid or post award).

- b. The OBO Director shall approve a Plan Deviation Request if the Contractor demonstrates that the industry standard for the type of work involved is to subcontract over 50 percent of the work.
- 4. A MWSBE firm cannot subcontract more than 50 percent of the work for which it is responsible to perform unless the OBO Director grants a Deviation Approval.
- 5. The Contractor may count 100 percent of MWSBE Manufacturer Supplier's participation and 60 percent of MWSBE Non-Manufacturer Supplier's participation toward its Contract Goals. Such MWSBE Supplier contracts shall not exceed 50 percent of contract's goals.
- 6. The OBO Policy and Procedures Manual, as amended, shall apply to the Contract for other determinations regarding counting MWSBE participation not explicitly provided for in the Contract.

#### H. CONTRACTOR COMPLIANCE

To ensure compliance with MWSBE requirements, the OBO Director and Contracting Department will monitor Contractor's efforts regarding MWSBE Subcontractors/Suppliers during the performance of this Contract. This may be accomplished through the following: job site visits, reviewing of records and reports, and interviews of randomly selected personnel.

#### I. RECORDS AND REPORTS

- In accordance with II.A of this Document, the Contractor shall submit an initial report outlining MWSBE participation, 40 days after the Notice to Proceed date, and on or before the 15th day of each month thereafter until all MWSBE subcontracting or material supply activity is completed. Each report shall cover the preceding month's activity. The Contractor shall use the MWSBE Contract Compliance and Monitoring System (B2G Now) to meet this requirement.
- 2. Contractor shall maintain the following records for review upon request by the OBO Director or Contracting Department:
  - a. Copies of executed Subcontractor agreements and purchase orders;
  - **b.** Documentation of payments and other transactions with MWSBE Subcontractors/ Suppliers;
  - Appropriate explanations of any changes or replacements of MWSBE Subcontractors/Suppliers;

NOTE: All replacement MWSBE Subcontractors/Suppliers must be certified by the Office of Business Opportunity.

- **d.** Any other records required by the OBO Director or Contracting Department.
- 3. If a Participation Plan Percentage is not being met, the monthly report shall include a narrative description of the progress being made in MWSBE participation. If sufficient MWSBE Subcontractors or Suppliers to meet the Participation Plan Percentage are being utilized, they should be identified by name and the dollar amount paid to date for work performed or materials furnished by each MWSBE during the monthly period. Reports are required when no activity has occurred in a monthly period.
- 4. Contractor shall retain all such records for a period of four years following completion of the Work and shall be available at reasonable times and places for inspection by authorized representatives of the City including the City Controller.

#### IV. SANCTIONS:

A. SUSPENSION PERIOD AND WAIVER

Pursuant to Section 15-86 of the Code of Ordinances, the OBO Director is authorized to suspend for a period of up to, but not to exceed, five years, any Contractor who has failed to make Good Faith Efforts.

#### B. GUIDELINES FOR IMPOSITION OF SANCTIONS

#### 1. General:

- a. The OBO Director shall not impose any sanction except upon evidence of specific conduct on the part of a MWSBE or Contractor that is inconsistent with or in direct contravention of specific applicable requirements for Good Faith Efforts.
- b. Imposition and enforcement of suspensions shall be consistent with applicable state law.

#### 2. Severity of Sanctions:

- a. In determining the length of any suspension, the OBO Director shall consider the following factors:
  - (1) Whether the failure to comply with applicable requirements involved intentional conduct or, alternatively, may be reasonably concluded to have resulted from a misunderstanding on the part of the Contractor or MWSBE of the duties imposed on them by Article V of Chapter 15 of the Code of Ordinances and these procedures;
  - (2) The number of specific incidences of failure by Contractor or MWSBE to comply;
  - (3) Whether the Contractor or MWSBE has been previously suspended;
  - (4) Whether the Contractor or MWSBE has failed or refused to provide the OBO Director with any information requested by the Director or required to be submitted to the Director pursuant to law or these procedures;
  - (5) Whether the Contractor or MWSBE has materially misrepresented any applicable facts in any filing or communication to the OBO Director; and
  - (6) Whether any subsequent restructuring of the subject business or other action has been undertaken to cure the deficiencies in meeting applicable requirements.
- b. Suspensions may be for any length of time not to exceed five years. Suspensions in excess of one year shall be reserved for cases involving intentional or fraudulent misrepresentation or concealment of material facts, multiple acts in contravention of applicable requirements, cases where the Contractor or MWSBE has been previously suspended, or other similarly egregious conduct.

#### C. DELEGATION

A decision to implement a suspension may be taken after notice and an opportunity for a hearing by an impartial person(s) designated by the OBO Director as the hearing officer. The hearing officer(s) shall not have participated in the actions or investigations giving rise to the suspension hearing.

#### D. NOTICE

- 1. Prior to imposing any suspension, the OBO Director shall deliver written notice to the Contractor or MWSBE setting forth the grounds for the proposed suspension and setting a date, time, and place to appear before the hearing officer(s) for a hearing on the matter.
- 2. Any notice required or permitted to be given hereunder to any Contractor or MWSBE may be given either by personal delivery or by certified United States mail, postage prepaid, return receipt requested, addressed to their most recent address as specified in the records of the Office of Business Opportunity or in the Contract if no address is on file with the Office of Business Opportunity.

#### E. HEARING PROCEDURES

Proceedings before a hearing officer shall be conducted informally and in accordance with the OBO Policy and Procedures Manual, as amended, provided that each party may be represented by counsel and may present evidence and cross-examine witnesses. The City shall have the burden to prove by a preponderance of evidence that the Contractor's or MWSBE firm's actions constitute misconduct or failure to make Good Faith Efforts. The decision shall be reduced to writing and notice provided to the Contractor or MWSBE.

#### F. APPEALS

Appeals authorized pursuant to Section 15-86(b) of the Code of Ordinances shall be conducted by the OBO Director. Pursuant to Section 15-86(b), The contractor may appeal the OBO Director's decision in accordance with Section 15-23 of the Code of Ordinances and OBO Policy and Procedures.

#### ATTACHMENT A

# City of Houston Office of Business Opportunity Good Faith Efforts Policy

#### General Policy.

Good Faith Efforts are steps taken to achieve an Contract Goal or other requirements which, by their scope, intensity and usefulness demonstrates the bidder's responsiveness to fulfill the business opportunity objective prior to the award of a contract, as well as the contractor's responsibility to put forth measures to meet or exceed the Contract Goal throughout the duration of the contract.

Good Faith Efforts are required to be made and demonstrated by an apparent successful bidder on goal oriented contracts or proposer on a regulated contract prior to award of a contract. Good Faith Efforts are required on professional services and construction contracts and on procurement of goods and non-professional service contracts with goals. If a bidder, when submitting a participation plan at the time of bid or proposal submission, anticipates it cannot or will not meet the Contract Goal prior to the award, the bidder must demonstrate to Office of Business Opportunity ("OBO") it has made Good Faith Efforts to meet the Contract Goal, to be eligible for the contract award.

Good Faith Efforts shall be evaluated on a case-by-case basis in making a determination whether a bidder or contractor is in compliance with this policy. The efforts employed by a bidder or contractor should be those that one could reasonably expect a bidder or contractor to take if the bidder were actively and aggressively attempting to obtain MWSBE participation sufficient to meet the Contract Goal. Efforts taken that are mere formalities or other perfunctory acts shall not be considered Good Faith Efforts to meet Contract Goals.

The factors provided herein are representative of the types of actions OBO will consider in determining whether the bidder or contractor made Good Faith Efforts to obtain MWSBE participation to meet the Contract Goal. The factors prescribed below are not intended to be a mandatory checklist, nor is it intended to be exhaustive or exclusive. OBO may consider other factors or types of efforts that may be relevant in appropriate cases.

If a contractor fails to submit Good Faith Efforts documentation as provided in this Policy, it waives the right to appeal OBO decisions related to this Policy. OBO will review all the efforts made by the contractor, including the quality and quantity of those efforts.

#### Pre-Award.

A bidder must submit a participation plan (Document 00470) to OBO at the time the bidder submits the bid. If the participation by certified MWSBE subcontractors documented on the participation plan ("participation") is less than the Contract Goal, a bidder should submit a Record of Good Faith Efforts (Document 00471) with the bid. A bidder should also submit a request for a deviation (Document 00472) if the bidder, having used Good Faith Efforts, reasonably believes that it cannot meet the Contract Goal or a commercially useful deviation.

In making a determination that the bidder has made a good faith effort to meet the Contract Goals, OBO shall consider specific documentation concerning the steps taken to obtain MWSBE participation, with a consideration of, by way of illustration and not limitation, whether the bidder demonstrated a genuine effort to comply with the following factors:

- 1. Attended any pre-bid or pre-proposal meetings scheduled by the City Department;
- Followed up with MWSBEs that attended the pre-bid or pre-proposal meetings to discuss subcontracting and supplier opportunities and contacted MWSBEs listed in the City's online directory;
- Conducted outreach with minority and women focused organizations and associations far in advance of solicitation due date (no less than 10 business days);
- Identified and designated portions of the work to be performed by MWSBEs to increase the likelihood of meeting the Contract Goals (including where appropriate breaking down the contract into reasonably sized subcontracts to ensure participation);
- 5. Advertised subcontracting opportunities in news media focused towards minority and women persons far in advance of solicitation due date;
- 6. Provided MWSBEs with a point of contact that was knowledgeable about the project and possessed decision-making authority to answer questions from interested MWSBEs;
- 7. Provided a reasonable number of MWSBEs certified with timely written notices via email, mail, and/or fax and/or with documented contact regarding the subcontracting/supplier opportunities. A "reasonable number of MWSBEs" shall be based on the number of MWSBEs available in the directory;
- 8. Solicited the MWSBEs within a reasonable amount of time (no less than seven business days) before bid submission, as well as followed up with the MWSBEs

solicited to determine if they were interested in submitting a bid or proposal or participating on a team.

- 9. Provided interested MWSBEs certified to perform the solicited work with prompt access to the plans, specifications, scope of work and requirements of the contract;
- 10. Negotiated in good faith with interested MWSBEs, and not rejecting MWSBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
- 11. Entered into a formal contract, or signing enforceable letters of intent with MWSBEs;
- 12. Provided an explanation to any MWSBE whose bid or price quotation is rejected, unless another MWSBE is accepted for the same work, as follows:
  - Where price competitiveness is not the reason for rejection, a written rejection notice including the reason for rejection will be sent to the rejected MWSBE firm;
  - b. Where price competitiveness is the reason for rejection, a meeting must be held— with the price-rejected MWSBE, if requested, to discuss the rejection;
- 13. Made efforts to assist interested MWSBEs in obtaining bonding, lines of credit, insurance required for the contract, and documenting MWSBE denied by bona fide surety agents;
- 14. Ensured that the conditions and requirements for subcontracts are commensurate with industry standards and would not cause an economic hardship on MWSBEs, such as unnecessary insurance or coupling bid bonds with retainage;
- 15. Incorporated efforts not attempted earlier or on previous bids that appear more likely to lead to attaining the Contract Goal. Past performance on similar contracts with similar scopes will also be taken in consideration when determining Good Faith Efforts. A bidder that continues to make same efforts without any significant change in the level of participation may not be making Good Faith Efforts.

#### Post-Award.

The contractor must sign the approved participation plan (Document 00470 or Document 00570) prior to starting work on the Project. A contractor should submit a request for deviation (Document 00572) from OBO if the contractor, having made Good Faith Efforts, reasonably believes that it will not achieve the Participation Plan Percentage documented in the approved participation plan. Unless OBO approves a deviation, a contractor must submit to OBO a Participation Summary (Document 00660) prior to City Council's consideration of any close-out, term extension, or change order. If participation is less than anticipated in the approved participation plan, the contractor must submit a Record of Good Faith Efforts (Document 00571) along with the Participation Summary. A contractor that fails to submit a deviation request and Good Faith Efforts documentation waives the right to appeal OBO decisions related to this Policy.

If the contractor is awarded the contract and fails to achieve the established Participation Plan Percentage, the contractor must demonstrate to OBO its efforts to meet the Participation Plan Percentage and failure to do so based on circumstances that the contractor could not reasonably control. In determining whether the contractor made Good Faith Efforts to ensure full participation and achievement of the Participation Plan Percentage, OBO shall consider the following factors:

- 1. Whether the contractor designated an MWSBE liaison officer to administer the Contractor's MWSBE programs and to be responsible for maintenance of records of Good Faith Efforts.
- 2. Whether the contractor furnished prompt MWSBE Utilization Reports in a timely and accurate manner through the online Contract Monitoring System or via hard copy.
- 3. Whether the contractor responded to efforts to resolve disputes with MWSBEs, and genuinely attempted to resolve these issues.
- Whether the contractor disclosed payment discrepancies timely and within the monthly reporting period;
- Whether the contractor complied with the participation plan, unless the contractor received a deviation from the OBO Director and whether upon approval, the contractor made Good Faith Efforts to replace a removed MWSBE with another certified firm;
- 6. Whether the contractor furnished prompt written responses to written inquiries from the Director or any employee of OBO regarding the MWSBE's performance or information germane to the MWSBE's certification;

- 7. Whether the contractor ensured that at all times during the performance of any contract or subcontract the MWSBE firm is engaging in a commercially useful function as that term is defined in Chapter 15 of the City of Houston Code of Ordinances;
- 8. Whether the contractor provided the OBO information, or other material, that was factually accurate and free of material misrepresentation; and
- 9. Whether the contractor furnished prompt responses to requests for information, books and records needed to verify compliance from the department administering the Contract, the City Attorney and the City Controller:
- 10. Whether the contractor attended all meetings and mediation hearings as requested by the Director or his/her designee; and
- 11. How the contractor may be affected by change orders, with consideration given to the size of the change orders.

#### Change Orders.

The requirement to make Good Faith Efforts to achieve the approved Participation Plan Percentage is applicable to change orders. Contractors should make Good Faith Efforts to ensure that the Participation Plan Percentage remains substantially the same after the issuance of change orders. If a contractor cannot maintain substantially the same level of participation provided in the latest approved Participation Plan (Document 00470 or Document 00570) due to a change order, the contractor shall submit to the OBO Director and Contracting Department a Document 00571 (Post-Award Record of Good Faith Efforts) and Document 00572 (Post-Award Plan Deviation Request) in a timely manner that does not cause disruption to the project. In addition to other relevant factors, in evaluating whether Good Faith Efforts were made by the contractor to meet the Participation Plan Percentage despite change orders, the OBO Director shall consider the contractor's efforts to timely and efficiently deliver the project.

**END OF DOCUMENT** 

# Lyons Health Clinic – Roof Replacement & Weatherproofing Construction Project WBS # H-000097-0002-4-01 ROOF INSULATION

#### SECTION 07220

#### **ROOF INSULATION**

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION

A. Work Included: Provide and install all roof insulation as shown on the roof plans and detail drawings and as specified herein.

#### 1.02 RELATED SECTIONS

- A. Section 01110 Summary of Work
- B. Section 02235 Temporary Site and Pedestrian Protection
- C. Section 05315 Steel Deck Replacement
- D. Section 06100 Rough Carpentry
- D. Section 07513 Modified Bitumen Cap Sheet Asphalt Roofing

#### 1.03 REFERENCES

- A. FM Roof Assembly Classifications.
- B. UL Fire Hazard Classifications.

#### 1.04 SYSTEM DESCRIPTION

- A. U.L. Class A System.
- B. F.M. Wind Uplift Resistance:
  - 1. FM approved insulation assembly recommendations.

#### 1.05 SUBMITTALS

- A. As provided in Section 01330 and 01340 and as required by the consultant.
- B. Product data:
  - I. Insulation.

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- 2. Manufacturer's installation instructions.
- C. Product sample, 12 inches by 12 inches:
  - I. Insulation.

#### 1.06 QUALITY ASSURANCE

- As provided in Section 01450.
- B. Standards: Comply with the standards specified in this section and as listed in the General Requirements.
- C. Qualifications of Manufacturer: Products used in the work included in this section shall be produced by manufacturers engaged in the manufacturing of similar items and with history of successful production and product installations.
- D. Qualifications of Installers: Installers shall be thoroughly trained and experienced in the necessary crafts. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
- E. Roofing Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of insulation installation.
- F. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the Contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the roof at all times.
- G. Replacement: In the event inadequate or improper installation is determined, the Contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the Contractor.

#### 1.07 REGULATORY REQUIREMENTS

- A. As provided in the General Conditions.
- B. As provided in Article 1.04, this section.

#### 1.08 PRECONSTRUCTION CONFERENCE

As provided in Section 01312.

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#### 1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. As provided in section 01610.
- B. Coordinate delivery with City.
- C. Prevent wrappers and packaging materials from inclusion in the insulation system.

#### 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Insulation installation shall not commence during inclement weather.
- Insulation installation shall not commence on a day when precipitation is imminent or probable.
- C. Insulation installation shall not proceed over damp or inadequate substrates.
- D. Work demolition or removal work shall not commence on a day when the chance of precipitation is 30% or higher as forecast by the National Weather Service or local forecasts.

#### 1.11 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule all phases of the Work of the Contract Documents with the City, Subcontractors, Material Suppliers and other parties as necessary to ensure the smooth and orderly transition of separate phases, or portions, of the Work, the timely placement of components and materials, including the complete cooperation between parties and proper execution of the Work.
- B. Work shall not be performed outside of normal business hours without the prior approval of the City of Houston.
- C. Work is to be performed on a daily basis, with each section completed before progressing to the next days work.
- D. Completion of work shall be defined as all specified existing roof preparation and the complete installation of all insulation, field membrane, flashings, counterflashings, sheet metal work, sheet metal fasteners and caulking.
- E. In no case shall the contractor remove more existing roofing than can be completely installed within one (1) hour of the end of the working day.

# Lyons Health Clinic – Roof Replacement & Weatherproofing Construction Project WBS # H-000097-0002-4-01 ROOF INSULATION

- F. Contractor shall complete new roof drain, overflow drain, drain line installation and secondary roof system prior to the installation of the tapered insulation system.
- G. Proceed with insulation application concurrently with Section 07513 Mineral Surfaced Cap Sheet Built-Up Roofing.

### 1.12 GUARANTEE AND WARRANTIES

A. The Contractor shall provide the City with the roof insulations manufacturer' <u>20 year</u> NDL guarantee in conjunction with Section 07513 – Modified Bitumen Cap Sheet Built-Up Roofing.

Deleted: 10

B. The Contractor shall warrant the work performed under this Section for a period of 5 years from the date of substantial completion. The Contractor shall accept the responsibility for the correction of defects in materials and workmanship and the repair of same upon notice by the City and at no cost to the City.

#### PART 2 - PRODUCTS

#### 2.01 INSULATION MATERIALS

- A. Insulation to be of the type and minimum thickness as listed here.
- B. Gypsum Fiber Insulation Board (Top Layer)
  - SecuRock by USG Corporation, felt facers designed for bonding with hot asphalt. Thickness shall be 1/2".
- C. Polyisocyanurate Insulation Board (Flat Stock and Tapered Insulation System and for Crickets and Saddles)
  - Insulation is to be a closed-cell, polyisocyanurate foam core with factory laminated facers. Foam core is to have a rated flame spread of 25 or less. Insulation to conform to federal specification HH-I-1972/2. Flat Stock Insulation is to be supplied in 2.5 in thick 4' x 4' boards. Minimum aged "R" value shall be 6.25 per inch. Tapered insulation boards shall be supplied in boards 1/8" and 1/4"per foot slope on the tapered insulation system, crickets and saddles, and shall provide positive slope for drainage.
  - 2. Approved Products
    - Flat or Tapered Polyisocyanurate Roof Insulation by Performance Roof

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- b. EnergyGuard Tapered PolyIso Roof Insulation by GAF.
- As approved by the roof system manufacturer for incorporation into the system warranty.
- D. Perlite cant strips shall be a minimum 3.5" X 3.5" with a 45 degree angle and be as supplied by the perlite insulation manufacturer.
- E. 24" Tapered polyisocyanurate edge strips shall be 1/2" per foot taper and be as supplied by the polyisocyanurate insulation manufacturer.

#### 2.02 RELATED MATERIALS

- A. Heat resistant insulation:
  - 1. Molded hydrous calcium silicate-based or perlite based ridge pipe insulation, pre-manufactured in 2-inch minimum thickness.
  - Acceptable product: "Thermo 12 Gold" by Johns Manville or "Calsilite" by Calsite Manufacturing Corporation.
- B. Compressible fill insulation:
  - 1. Foil faced fiberglass batten roll insulation.
  - 2. Acceptable products: As manufactured by Owens Corning.
- C. Asphalt adhesive:
  - 1. Type IV Roofing Asphalt shall conform to ASTM D-312, as approved by the roof system manufacturer.
- D. Insulation Fasteners:
  - Steel Deck: CR-10 fluorocarbon coated, self-tapping screws of sufficient length to penetrate the steel deck a minimum of 1-inch (25mm), minimum 3-inch (75mm) diameter steel plates with recessed screw head for use with insulation, such as #15 Extra Heavy Duty Roofing Fastener" as manufactured by OMG Roofing Products. Other fasteners may be approved providing contractor arranges and pays for testing of the fastener to provide evidence it will meet wind uplift requirements. No change orders for an increase in contract will be

# Lyons Health Clinic – Roof Replacement & Weatherproofing Construction Project WBS # H-000097-0002-4-01 ROOF INSULATION

provided for additional fasteners as a result of testing and approval of other fasteners.

### 2.03 ROOF MEMBRANE MANUFACTURER'S APPROVAL

A. All insulation shall be approved in writing by the roof membrane manufacture as an acceptable substrate to receive their roof system in order to meet specified code requirements and obtain warranties as specified.

#### PART 3 - EXECUTION

### 3.01 MECHANICAL ATTACHMENT OF BASE LAYER INSULATION

A. Over completed <u>existing or new metal decking</u>, install base layer of insulation in line of longitudinal joints perpendicular to deck material longitudinal joints and/or slope.

Deleted: venting base sheet installation

- B. Layout with lateral joints staggered.
- C. Mechanically attach to metal deck:
  - 1. Fastener installation:
    - a. Fasteners shall be driven perpendicular to deck.
    - b. Fasteners shall engage top flanges of metal deck only.
    - c. Fasteners shall penetrate deck a minimum of 1 inch.
    - Installation shall be accomplished utilizing tools designed or approved by the fastener manufacturer.
  - 2. Fastener pattern on each board:
    - See FM Loss Prevention Data Sheet 1-29 or as indicated on the drawings, whichever is greater.
  - 3. Partial boards shall be fastened at a rate commensurate with full boards, but in no case shall have less than 2 fasteners per piece.

### 3.02 BITUMEN ATTACHMENT OF SUCCESSIVE LAYERS OF INSULATION

A. Successive layers of insulation, crickets and tapered edge strips are to be installed over approved base layer of mechanically attached in a solid mopping of hot asphalt. Bitumen is to be applied at a rate of 30 to 35 Lbs/100 sq. ft., minimum. See Section 07513, paragraph 3.05 for heating and handling requirements for asphalt and installation of venting base sheet.

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- B. The application or embedment temperature of the asphalt used to adhere roof insulation shall be at the minimum range of the EVT of the asphalt used to ensure complete adhesion of the insulation boards.
- C. Insulation boards are to be "stepped in" continuously to assure 100% adhesion. Unadhered insulation shall be removed and replaced at no cost to the City of Houston.
- D. Insulation is to be installed with all joints staggered and tightly butted. Gaps between insulation boards shall not exceed 1/8". Insulation is to fit tightly around projections. Gaps or joints greater than 1/8" are not acceptable and shall be filled with insulation materials trimmed to fit tightly in the gap.
- E. Joints in top layer(s) of insulation are to be offset from the bottom layer(s) of insulation a minimum of 12".
- F. Insulation is to be installed with full bearing (all four edges) on the underlying substrate.
- Install insulation with no cantilevered joints.
- H. Install insulation crickets, saddles, cants and tapered strips over the completed base layers of insulation and tapered insulation system per items A through G, above.

### 3.03 TAPERED INSULATION SYSTEM, CRICKETS AND SADDLES

- A. Install tapered insulation system over the top of the completed base layer in accordance with the approved design by the system manufacturer prior to the installation of the gypsum fiber board or top layer. Tapered insulation system shall be installed to eliminate all surface ponding within the time frame as required by the approved roof membrane manufacturer. Contractor shall add tapered edge strips where necessary to avoid changes in elevation due to uneven elevations at ridges and valleys.
- B. Install crickets and saddles on the up-slope sides of all rooftop projections whose widths are in excess of 3 linear feet, and in between roof drains prior to the installation of the gypsum fiber board or top layer.
- C. Install crickets and saddles in additional areas that display evidence of ponding water. Contractor shall be responsible for eliminating ponding water on this project. Perform this work as portion of the base bid.
- D. Install crickets and saddles fully adhered in hot asphalt over the underlying substrate:
  - 1. Install boards to each other and adjacent materials::
    - Gaps in excess of 1/8 inch not acceptable.

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- b. Fill voids and gaps with insulation trimmed to fit.
- c. Fully walk-in to ensure full adhesion.
- Adhere in solid moppings of Type IV asphalt at an application rate of 30 pounds per 100 square feet.
- 3. Install one additional membrane ply in hot asphalt along the drainage valley or apex of the cricket prior to membrane roofing application.

### 3.04 HEAT RESISTANT INSULATION

A. Install heat resistant insulation around heat emitting vent pipes, and where indicated on the detail drawings.

#### 3.05 FILLER INSULATION

A. Install fiberglass compressible insulation at deck opening, projections, penetrations, and curbs as indicated on the detail drawings.

#### 3.06 VERIFICATION

A. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed.

### **END OF SECTION**

#### **SECTION 07513**

### MODIFIED BITUMEN CAP SHEET BUILT-UP ROOFING

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION

A. Furnish and install a weather and watertight modified bitumen cap sheet built-up roof system complete, in place, as shown on the drawings and as specified herein.

#### 1.02 RELATED SECTIONS

- A. Section 01110 Summary of Work
- B. Section 02050 Roof Demolition and Disposal.
- Section 02235 Temporary Site and Pedestrian Protection.
- D. Section 05315 Steel Deck Replacement.
- D. Section 06100 Rough Carpentry.
- E. Section 07220 Roof Insulation.
- F. Section 07620 Roof Related Sheet Metal.
- G. Section 07720 Roof Specialties and Accessories.
- H. Section 07920 Sealants and Caulking.
- I. Section 09830 Elastomeric Wall Coating.
- J. Section 09870 Urethane Paint.

#### 1.03 REFERENCES

- A. ASTM D-41, Specification for Asphalt Primer, most recent edition.
- B. ASTM D-173, Specification for Bitumen Saturated Cotton Fabrics, most recent edition.
- C. ASTM D-226, Specification for Asphalt Saturated Organic Felt, most recent edition.

- D. ASTM D-312, Specification for Asphalt, most recent edition.
- E. ASTM D-1327, Specification for Bitumen Saturated Woven Burlap Fabrics, most recent edition.
- F. ASTM D-2178, Specification for Asphalt Glass Felt, most recent edition.
- G. ASTM D-2822, Specification for Asphalt Roof Cement, most recent edition.
- H. ASTM D-2824, Specification for Aluminum Pigmented Asphalt Roof Coatings, most recent edition.
- ASTM D-5147, Specification for Modified Bitumen Roof Membranes, most recent edition.
- J. FM Roof Assembly Classifications.
- K. UL Fire Hazard Classifications.

#### 1.04 SYSTEM DESCRIPTION

U.L. Class A Fire-Rated System.

#### 1.05 SUBMITTALS

- A. As provided in Section 01300 and as required by the consultant.
- B. Product Data: For each type of roofing product specified. Include data substantiating that materials comply with requirements.
- C. Shop Drawings: Include plans, sections, details, and attachments to other work, for the following:
  - Base flashings, cants, and membrane terminations.
- D. Samples for Verification: Of the following products.
  - 12-inch by-12-inch square of modified bituminous, smooth-surfaced cap sheets.
- E. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install specified roofing system and is eligible to receive the standard roofing manufacturer's warranty.

- F. Manufacturer Certificates: Signed by roofing system manufacturer certifying that the roofing system complies with warranty requirements.
- G. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and the City of Houston's, and other information specified.
- H. Product Test Reports: Based on evaluation of tests performed by manufacturer and witnessed by a qualified independent testing agency, indicate compliance of components of roofing system with requirements based on comprehensive testing of current product compositions.
  - Indicate compliance of bulk roofing asphalt materials delivered to Project with requirements. Include quantity and statistical and descriptive data for each product. Submit certificate with each load before it is used.
  - Include continuous log showing time and temperature for each load of bulk bitumen, indicating date obtained from manufacturer, where held, and how transported before final heating and application on roof.
- Research/Evaluation Reports: Evidence of roofing system's compliance with building code in effect for Project from a model code organization acceptable to authorities having jurisdiction.
- Warranty: Sample copy of standard roofing manufacturer's warranty stating obligations, remedies, limitations, and exclusions of warranty.
- K. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roof installation.

#### 1.06 QUALITY ASSURANCE

- A. As provided Section 01400.
- B. Qualifications of Manufacturer
  - 1. Products used in the work included in this section shall be produced by manufacturers regularly engaged in the manufacturing of similar items and with a history of successful production and product installations.
- C. Qualifications of Contractor

The Contractor shall be previously and currently approved by the manufacturer
of the products to be installed under this section of the specification. Verification
of approved Contractor status shall be by written manufacturer certification, as
stated elsewhere. Contractor shall be certified by the manufacturer as having
their highest approval status such as "Master Select" or other designation
indicating the highest level of approved contractor.

#### D. Qualifications of Installers

Installers shall be thoroughly trained and experienced in the necessary crafts.
 Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section. Contractor shall be certified by the manufacturer as having their highest approval status such as "Master Select" or other designation indicating the highest level of approved contractor.

#### E. Rejection

In the acceptance or rejection of work under this section, no allowance will be
made for lack of skill or specification understanding on the part of the workmen.
It shall be incumbent upon the contractor to use adequate numbers of skilled
installers and to instruct them in the requirements of the project specifications as
well as maintaining a set of the project specifications and drawings on the roof at
all times.

#### F. Replacement

In the event inadequate or improper installation is determined, contractor shall
make all repairs and replacements required to render the installation compliant
with the project specifications. Replacements, due to improper performance,
shall be at the sole cost of the contractor.

#### 1.07 REGULATORY REQUIREMENTS

- A. As provided in the General Conditions.
- B. This Section, Article 1.04.

#### 1.08 PRECONSTRUCTION CONFERENCE

- As provided in Section 01200.
- 1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

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- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
  - If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
  - 2. Polyethylene roll stock material is not an acceptable tarp material.
  - 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.
- E. Coordinate delivery with the City of Houston.
- F. Prevent wrappers and packaging materials from inclusion in the roofing system.
- G. Bitumen
  - 1. Mixing of different types or classes of bitumen remains and residues in tankers, kettles, luggers, and buckets will not be acceptable.
  - Tanker and kettle temperatures shall be equipped with accurate and calibrated thermometers.
  - 3. Bitumen shall be heated and applied in accord with E.V.T. ranges recommended by the manufacturer.
  - Bitumen heated beyond its specified flash point will be rejected.

- 5. Contaminated bituminous material shall not be incorporated into the Work.
- Once ignited and extinguished in a vessel, bitumen and remains in that vessel shall not be incorporated in the Work.
- H. Material containers, mixing, and dilution:
  - 1. Containers shall be closed and sealed except when materials are being removed.
  - 2. Follow Manufacturers' instructions for mixing and stirring.
  - 3. Cements, adhesives, primers, coatings, and sealants which have been diluted or cut-back, after their manufacture shall not be incorporated into the Work.

### 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Work shall not commence during inclement weather.
- B. Work shall not commence on a day when precipitation is imminent or probable.
- C. Work shall not proceed over damp substrates.
- D. Cold weather application procedures shall be employed when sustained ambient temperature is less than 40 degrees Fahrenheit:
  - 1. Insulate bitumen recirculating pipe from kettle to roof.
  - Insulate roofing bitumen transporting devices.
  - 3. Application temperatures, E.V.T., in accord with manufacturer's specification shall be maintained for work to proceed.
  - Plans for area enclosures shall be submitted in advance for approval by the Consultant.

#### 1.11 SEQUENCING AND SCHEDULING

A. Coordinate and schedule all phases of the Work of the Contract Documents with the City of Houston, Subcontractors, Material Suppliers and other parties as necessary to ensure the smooth and orderly transition of separate phases, or portions, of the Work, the timely placement of components and materials, including the complete cooperation between parties and proper execution of the Work.

- B. Work shall not be performed outside of normal business hours without the prior approval of the City of Houston.
- C. Work is to be performed on a daily basis, with each section completed before progressing to the next days work.
- D. Completion of work shall be defined as all specified existing roof preparation and the complete installation of all insulation, field membrane, flashings, counterflashings, sheet metal work, sheet metal fasteners and caulking.
- E. Contractor shall complete roofing work on a daily basis unless specifically directed otherwise by the City of Houston.
- F. In no case shall the contractor remove more existing roofing than can be completely installed within one (1) hour of the end of the working day.
- G. Removal of the existing roof and installation of the new roofing is to be sequenced so as to minimize foot and vehicle traffic over new roofing.
- H. All temporary night seals between existing roof membrane and new roof membrane are to be installed in a completely watertight condition a minimum of one (1) hour prior to the end of the work day.
- I. Temporary base flashings are not acceptable.

### 1.12 GUARANTEE AND WARRANTIES

- A. The Contractor shall provide the City of Houston with the roof membrane system manufacturers 20 year NDL guarantee against defects in materials and workmanship. A specimen of this guarantee shall be presented to the City of Houston at Contract execution. The completed and approved guarantee agreement shall be delivered to the City of Houston before final payment will be made. The guarantee shall provide for repair and replacement of defective Work and leaks at no cost to the City of Houston.
- B. The Contractor shall warrant all Work performed under this Contract for a period of 5 years from the date of Substantial Completion. The Contractor shall accept responsibility for the correction of defects in materials and workmanship and shall repair leaks promptly upon notice by the City of Houston or his Representative and at no cost to the City of Houston. The Contractor shall reimburse the City of Houston for repairs performed by others should the Contractor not remedy leaks within five (5) working days after written notice of said defects by the City of Houston.
- C. The Contractor shall provide and install a minimum of two (2) Guarantee/Warranty

signs. Signs shall be a minimum of 8½" x 11" and be constructed of no less than 18 gauge metal. Background color shall be white with black lettering. Signs shall be professionally fabricated and printed by a supplier with experience in such work. Signs shall be mounted at the project site in locations selected by the City of Houston. Signs shall contain the following information:

- 1. Facility Name and Locations.
- 2. BEC Project Number.
- 3. City of Houston named as the owner.
- 4. Date of substantial completion.
- 5. Roofing Contractor's information:
  - a. Company name.
  - b. Company address.
  - c. Company contact person.
  - d. Company telephone number.
  - e. Contractor's Warranty expiration date.
  - f. Contractor's Warranty identification number.
- 6. Manufacturer's Warranty information:
  - a. Manufacturers name.
  - b. Manufacturers address.
  - c. Manufacturers contact person/department.
  - d. Manufacturers telephone number.
  - e. Manufacturers Warranty expiration date.
  - f. Manufacturers Warranty identification number.
- 7. The following general information shall be posted on the sign:

"The roof system of this facility is under warranty and access is restricted except with the written permission of the facility manager. Work on or changes to the roof shall not be performed unless the prior written notification has been provided to the contractor and manufacturer(s) as identified herein."

D. The contractor and manufacturer shall perform a twelve (12) month inspection after the substantial completion. The inspections shall be scheduled with the City of Houston and their representative. All deficiencies found during the inspection shall be repaired by the manufacturer and contractor at no expense to the City of Houston.

#### PART 2 - MATERIALS

#### 2.01 GENERAL

A. Minimum product requirements have been listed. All of these components must be used and bid.

#### 2.02 ROOFING FELTS

- A. Fiberglass roofing (ply) felts shall meet or exceed ASTM D-2178, Type IV as follows:
  - 1. PRS Glass Ply 4 by Performance Roof Systems.
  - 2. GAF Glas Ply 4 by GAF Corporation.

### 2.03 BASE FLASHINGS AND STRIPPING MEMEBRANE

- A. Base flashings and stripping membrane shall consist of two bottom (backer) plies of Type IV fiberglass roofing felt and one top ply of white surfaced polyester and fiberglass mat reinforced modified bitumen membrane as follows:
  - 1. DerbiBrite by Performance Roof Systems.
  - 2. Top Ply: Energy Cap Mop FR, as manufactured by GAF Materials Corporation.
- B. Stripping membrane shall consist of two-plies of Type IV Fiberglass Roofing Felt.

### 2.04 ELASTOMERIC SURFACED CAP SHEET

- A. Top Ply: DerbiBrite, as manufactured by Performance Roof Systems, Inc., high tensile cap sheet with the following properties.
  - 1. Thickness: Minimum 140 mils.
  - 2. Tensile Strength Weakest Direction: Minimum 180 pounds per inch of width, at 0 degrees F., as tested by ASTM D5147.
  - Tear Resistance Weakest Direction: Minimum 174 pounds, as tested by ASTM D5147.
  - 4. Reinforcements: Multiple reinforcements, comprised of one (1) Fiberglass mat with

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a minimum weight of 2.65 lb./sq., and one (1) Polyester scrim with a minimum weight of .91 lb./sq.

- 5. Dimensional Stability: Absolute dimensional change shall be 0%, after heat conditioning at 80 degrees C., per ASTM D5147.
- 6. Surfacing: Factory applied baked acrylic.
- 7. pH Rating: Neutral for water run-off.
- 8. Solar Reflectance Rating: Minimum .91
- Initial Reflectivity: Minimum 75%.
- 10. Emissivity: Minimum emissivity .82.
- B. Top Ply: Energy Cap SBS 30 FR, as manufactured by GAF Materials Corporation, high tensile cap sheet with the following properties.

Deleted: Heat-Weld Plus

- 1. Thickness: Minimum 140 mils.
- 2. Tensile Strength Weakest Direction: Minimum 70 pounds per inch of width, at 0 degrees F., as tested by ASTM D5147.
- Tear Resistance Weakest Direction: Minimum 35 pounds, as tested by ASTM D5147.
- 4. Reinforcements: Reinforcement comprised of one (1) Fiberglass mat.
- 5. Dimensional Stability: Absolute dimensional change shall be .5%, after heat conditioning at 80 degrees C., per ASTM D5147.
- Surfacing: Factory applied TopCoat Energy Coat.
- 7. pH Rating: Neutral for water run-off.
- Solar Reflectance Rating: Minimum 80%
- 9. Initial Reflectivity: Minimum 80%.
- 10. Emissivity: Minimum emissivity .84.
- 2.05 RELATED BITUMINOUS MATERIALS

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Asphalt for Roofing:

A.

	1. 2.		
В	Primer:		
	1.	Concrete Primer by Johns Manville.	
	2.	Matrix 301 Asphalt Primer by GAF Materials Corporation.	Deleted: Black Armor Asphalt Primer D-41 by
	3.	Permatop Primer by Performance Roof Systems, Inc.	Allied Signal, Inc
	4.	ASTM D-41-94.	
<u>C</u> .	Ası	Shalt Roof Cement:	Deleted: C. Cold Application Adhesive (Cap Sheet).
	1.	203 Plastic Roof Cement by GAF.	1. Permastic by Performance Roof Systems, Inc. or approved equal.
	2.	Approved equal by Performance Roof Systems, Inc.	2. ASTM D-4586¶  Deleted: D
	3.	ASTM D-4586-93, Type I; asbestos free.	
<u>D</u>	Flas	ning Cement:	Deleted: E
	1.	Permastic by Performance Roof Systems, Inc.	
	2.	201 Premium Flashing Cement by GAF.	Deleted: 202
	3.	ASTM D-4586.	
<u>F</u> ,	Cold	Application Adhesive (Cap Sheet):	Deleted: F
	1.	Permastic by Performance Roof Systems, Inc.	
	2.	102 SBS Membrane Adhesive by GAF.	
	3.	ASTM D-4586.	
<u>E </u>	Alumi	num Coating:	eleted: G
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- Permalume Premium by Performance Roof Systems. 1.
- 2. Matrix 304 Non-Fibered Aluminum Roof Coating by GAF.
- 3. ASTM D-2824.

#### Underlayment:

Deleted: H

- 1. 20 mil. (Minimum) Neoprene Sheeting by Nervastral.
- 2. 20 mil. (Minimum) P.V.C. Sheeting, Lexsuco Water Barrier by GAF.
- 3. Use adhesives as provided by the manufacturer.

### Rubberized Asphalt Edge Sealant:

Deleted: i

- 1. TopCoat Flex Seal by GAF or approved equal.
- 2. ASTM D-4586.

Fiberglass reinforcing fabric shall comply with the requirements of ASTM D 1668, Type

Deleted: J

Elastomeric Roof Coating.

Deleted: K

- 1. Permacool Reflective Elastomeric Roof Coating as manufactured by Performance Roof Systems, Inc.
- 2. TopCoat Energy Cote by GAF.
- Primers and Miscellaneous products as supplied for the manufacturer for use 3. with the elastomeric coating and required for its installation.

#### PART 3 - EXECUTION

#### **GENERAL** 3.01

The latest manufacturer specifications and installation techniques are to be followed. A.

#### PRE-CONSTRUCTION SITE INSPECTION 3.02

A. As provided in Section 01312.

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- B. Examine site and determine satisfactory conditions for Work.
- C. Provide in writing to the City of Houston to notify of defects and conditions which may adversely influence performance or completion of Work.
- D. Absence of written notice will constitute the Contractors acceptance of site.
- E. Verify:
  - 1. Deck support, attachment, and integrity.
  - 2. Deck weight limits before loading materials.
  - 3. Existence and locations of above ground utility lines, underground utilities, water and gas lines, fire sprinkler systems, pavement heating devices, above and below deck conduit and tubing, ceiling suspension systems and lawn sprinkling systems.

#### 3.03 DAILY INSPECTION

A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.

#### 3.04 SURFACE CONDITIONS

- Surfaces scheduled to receive roofing are to be free of any moisture, frost, or loose debris.
- B. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- C. All metal fittings specified or shown on drawings are to be in place before roofing.
- D. All nailers shall be securely installed prior to roofing.

### 3.05 HANDLING, HEATING AND APPLICATION TEMPERATURE OF ASPHALT

A. If pumper kettles only are used on the job, then the asphalts shall be delivered to work site in cartons and/or cans. The kettle shall be placed in a metal pan with a volume 10% larger than the volume of the kettle. The kettle shall be equipped with an "afterburner" to reduce fumes from the heated asphalt. A Fire Marshall shall be present at all times during kettle operations and all costs for the Fire Marshall shall be paid by the contractor.

- B. If tankers are used, the asphalt in the tanker shall not be heated to above 475 degrees maximum, and 350 degrees maximum if asphalt is to be stored more than 8 hours.
- The heating of asphalts should conform to the equiviscous temperature range concept (EVT).
- D. Never heat the asphalt to or above the actual coc flash point, (FPT).
- E. Asphalt shall be heated in an approved kettle equipped with a secondary burner for reducing particulate and hydrocarbon emissions.
- F. The manufacturer must label each carton of asphalt with the EVT and FPT temperatures.
- G. All asphalt delivered to the site shall be tested according to ASTM D-312 requirements by an independent testing laboratory.
- H. The application or embedment temperatures of asphalts shall be within 25°F of the equiviscous temperature (EVT) for optimum application.

#### 3.06 FELT INSTALLATION

- A. Over insulation, apply 3 plies of roofing felt set in hot (at EVT) asphalt as specified.
- B. Start with a 12 inch wide felt; then over that, 24 inch wide; then over that, a full 36 inch wide felt.
- C. Install each felt so that it shall be firmly and uniformly set, without voids, into the hot (at EVT) asphalt applied just before the felt at a nominal uniform rate of 25 lbs per 100 square feet.
- D. Felts are to be broomed into the hot asphalt with a soft bristle push broom or a smooth rounded wood squeegee with no bristles.
- E. Do not walk directly on felts for a minimum of 45 minutes to allow for proper adhesion of the felts.
- F. No phased construction is to be allowed. The roof section is to be completed with a full three-ply application at the end of each working day. If it should become necessary to employ a phased application due to a sudden rainstorm, the temporary installed felts will be removed prior to a full three-ply application.

#### 3.07 CAP SHEET INSTALLATION

A. Install 15 ft. lengths of modified bitumen cap sheet using cold process adhesive

application methods as specified by the manufacturer.

- B. Where allowed by the manufacturer heat weld the cap sheet to the 3-ply, including all sidelaps and endlaps in lieu of cold process adhesive. Heat welding shall be done in accordance with the manufacturers latest written instructions. While installing membrane top ply, provide proper protection or method during application and heat welding of side and endlaps to prevent burning or charring on the surfacing of previously installed sheet.
- C. Fully adhere membrane top ply to glass ply felts and have a minimum of 3-inch side laps or width of selvage edge and 6-inch end laps. Extend membrane top ply to top edge of cant. Apply each sheet directly behind technician. Stagger side laps of top ply (a minimum of 12-inches) from side laps of base ply.
- D. During end lap application, trim the inside corner along the selvage edge of the underlying sheet at the end of the roll. The trimmed area shall be the width of the selvage edge and extend downward from the end of the roll to the outer side of the roll on a linear direction approximately 5-1/2-inches from end of roll. Trim outside corner of membrane top ply at end laps to provide rounded finished corner.
- E. Install membrane top ply so that end laps of every other sheet is aligned.
- F. Apply a patch over areas of membrane with spills, scars, physical damage or other defects. Patch shall be the full width of membrane top ply and extend a minimum of 2inches beyond the defect in each direction.
- G. Check heat welded lap seams and seal unbonded or discontinuous seams using a heated steel trowel.
- H. Apply manufacturers approved elastomeric coating to all cap sheet laps, areas of discolorization, burn marks, etc., in accordance with the manufacturer's instructions and as directed by the City of Houston or consultant. No bitumen marks, dirty areas, etc. will be acceptable on the white cap sheet. If directed by the City of Houston and/or the consultant the contractor shall clean and/or coat entire areas with manufacturers approved elastomeric coating system to the satisfaction of the City of Houston.

#### 3.08 BASE FLASHINGS

- A. Install finishing felts extending to 2" above the top of the cant strip and trimmed level.
- Prime all vertical surfaces with asphalt primer at a nominal rate of 1 gallon per 100 sq. ft. and allow to dry.

- C. In a uniform coating of hot asphalt, install two (2) plies of glass fiber backer felt extending from the top of the base flashing to 4 inches from the base of the cant onto the roof membrane.
- D. Apply top ply of flashings only after ply felts are in place.
- E. Cut modified bitumen flashing membrane to extend a minimum of 4-inches above the top of the membrane top ply covering the cant. The overall minimum height of the top of the flashing membrane above the top of the roof surface is 8-inches. Extend flashings to full height of vertical substrate.
- F. Extend the flashing membrane horizontally 4-inches onto the field of the roof surface beyond the bottom edge of the cant strip.
- G. Cut flashing from roll and create an uncoated edge as lap seam for adjacent sheets. Lap ends a minimum of 4-inches and stagger laps from laps of underlying plies.
- H. Fully adhere and conform top ply of flashing to substrate.
- Secure the upper edge of the base flashing with a termination bar secured at 6 inches on center maximum.
- J. Side and end lap treatment:
  - Where allowed by the manufacturer heat-weld all sidelaps in lieu of cold process adhesive.
  - 2. All side and end laps shall be rolled with a minimum 20 lb. Steel roller following immediately behind the torch and/or heat welder.
  - 3. A minimum of 1/4" continuous bleed-out shall be visible at all laps/seams after application. The edge of the laps/seams shall be left untooled (not buttered).
  - Apply manufacturers supplied elastomeric coating to all sidelaps and endlaps, areas of discolorization, burn marks, etc., in accordance with the manufacturer's instructions, or as directed by the consultant.
- K. Top edge of the flashing felts are to be sealed in a solid coating of flashing cement and 4" reinforcing fabric and top layer of asphalt flashing cement.
- L. Elevation on walls and vertical details:
  - 1. Minimum 8 inches above finished roof surface.

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- 2. Elevations above 24 inches:
  - Flashing membranes shall be installed the width of the roll and precut to the desired height.

#### M. Terminations:

- Walls where coping scheduled:
  - a. Extend to top edge of nailer.
  - Fasten with angle termination bar along top outside edge of nailer, 6 inches on center.
  - Extend underlayment across nailer down outside vertical face of nailer.
  - d. Fasten along outside nailer face, 6 inches on center.
- Surfaces where termination or compression bar scheduled:
  - a. Extend up to and along scheduled detail fixation line.
  - Install compression bar on same day as flashing installation.
- 3. Surfaces where counterflashing scheduled:
  - a. Extend up to 1/4 inch below receiver.
  - Fasten membrane in a line 1 inch below termination edge and on 6 inch centers.
  - c. Three-course upper termination by applying an 1/8 inch layer of roof cement over transition and fully embed a 6 inch wide strip of fabric into the wet cement layer. Apply an additional 1/8 inch thick layer of roof cement over the embedded fabric
- 4. Curbed box penetrations:
  - a. Extend to top outside edge of nailer.
  - b. Fasten in line 1 inch below termination edge and on 6 inch centers.
- Surface where metal edge scheduled:
  - a. Extend to outside edge of nailer.
  - Install edge sealant with white elastomeric coating as provided by the manufacturer.
- N. Apply manufacturers approved elastomeric coating to all cap sheet laps, areas of

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discolorization, burn marks, etc., in accordance with the manufacturer's instructions, or as directed by the consultant. No bitumen marks, dirty areas, etc. will be acceptable on the white cap sheet/base flashing. If directed by the City of Houston and/or the consultant the contractor shall clean and/or coat entire areas with manufacturers approved elastomeric coating system to the satisfaction of the City of Houston.

### 3.09 STRIPPING AT METAL FLASHING FLANGES

- A. Install metal flashing flanges embedded in roofing cement.
- B. Flanges are to extend a minimum of 4" onto the roof surface. Mechanically attach to wood nailers or deck on 3" centers staggered.
- C. Prime top of metal flanges and allow to dry, then install 2 plies of fiberglass felt in hot asphalt. Bottom ply to extend a minimum of 4" past the edge of the metal flange. Top ply to extend a minimum of 6" past the edge of the metal flange.
- D. Caulk edges with edge sealant and embed loose granules on granule surfaced cap sheets.
- E. Contractor shall provide the minimum duration of fire watch as required by Code Requirements, and or a minimum of 4 hours, which ever is more stringent.

#### 3.10 CLEAN UP

- A. The contractor shall clear the construction areas and shall provide for the removal from the building site of all his construction debris.
- B. All debris shall be removed from the premises promptly and the construction area left clean daily.
- C. The contractor is responsible to assure that his subcontractors have properly removed and disposed of all debris relating to their Contract.
- D. At the completion of the Contract, contractor is to remove and dispose of all equipment related to his Contract.

### 3.11 MANUFACTURER'S FIELD SERVICES

A. Provide manufacturer's field services including attendance of the Pre-Construction meeting, initial inspection, mid-term inspection and final inspection. Additional inspections shall be made as required by the manufacturer or as requested by the City of Houston or consultant.

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B. Request progress inspections by manufacturer's representative where required under guarantee provisions. A minimum of a midterm and final inspection of completed work are required by the manufacturer at a minimum.

**END OF SECTION** 



